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BUREAU OF MINES MINERALS YEARBOOK

# The Mineral Industry of Mississippi

UNITED STATES DEPARTMENT OF THE INTERIOR

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# The Mineral Industry of Mississippi

**This chapter has been prepared under a Memorandum of Understanding between the Bureau of Mines, U.S. Department of the Interior, and the Bureau of Geology, Mississippi Department of Natural Resources, for collecting information on all nonfuel minerals.**

**By James R. Boyle**[1]

The value of Mississippi's nonfuel mineral industry in 1987 increased by 9% to $110 million. Mississippi's economy remained one of the weakest in the Southeast; mineral output was relatively low.

Commodities produced included cement, clays, sand and gravel, and stone. Although not considered a major mining State, ranking 42d nationally, Mississippi ranked high in production of certain clays. Output of bentonite ranked second nationally while output of fuller's earth ranked sixth. The State also had two titanium dioxide plants and a small metals sector.

**Table 1.—Nonfuel mineral production in Mississippi**[1]

| Mineral | 1985 | | 1986 | | 1987 | |
|---|---|---|---|---|---|---|
| | Quantity | Value (thousands) | Quantity | Value (thousands) | Quantity | Value (thousands) |
| Clays ---------- thousand short tons | 1,558 | $34,864 | [2]928 | [2]$13,538 | 1,123 | $26,933 |
| Gem stones | -- | -- | NA | 1 | NA | 1 |
| Sand and gravel (construction) thousand short tons | [e]13,400 | [e]42,000 | 15,080 | 42,809 | [e]14,700 | [e]47,000 |
| Stone (crushed) ---------- do. | 1,582 | 4,282 | [e]1,600 | [e]4,400 | 1,492 | 9,621 |
| Combined value of cement, clays (ball clay and fuller's earth, 1986), and sand and gravel (industrial) | XX | 21,647 | XX | 40,347 | XX | 26,524 |
| Total | XX | 102,793 | XX | 101,095 | XX | 110,079 |

[e]Estimated. NA Not available. XX Not applicable.
[1]Production as measured by mine shipments, sales, or marketable production (including consumption by producers).
[2]Excludes certain clays; kind and value included with "Combined value" data.

**Table 2.—Nonfuel minerals produced in Mississippi in 1986, by county[1]**

| County | Minerals produced in order of value |
|---|---|
| Adams | Sand and gravel. |
| Benton | Clays. |
| Bolivar | Sand and gravel. |
| Carroll | Do. |
| Clay | Do. |
| Copiah | Do. |
| De Soto | Do. |
| Forrest | Do. |
| George | Do. |
| Hancock | Do. |
| Harrison | Do. |
| Hinds | Clays. |
| Holmes | Sand and gravel. |
| Itawamba | Do. |
| Jackson | Do. |
| Jasper | Do. |
| Jefferson Davis | Do. |
| Jones | Sand and gravel, clays. |
| Kemper | Clays. |
| Lafayette | Sand and gravel. |
| Lauderdale | Do. |
| Lee | Do. |
| Lincoln | Sand and gravel, clays. |
| Lowndes | Cement, sand and gravel, clays. |
| Marion | Sand and gravel. |
| Marshall | Clays. |
| Monroe | Clays, sand and gravel. |
| Noxubee | Clays. |
| Panola | Clays, sand and gravel. |
| Pearl River | Sand and gravel. |
| Perry | Do. |
| Pike | Do. |
| Stone | Do. |
| Tate | Do. |
| Tippah | Clays. |
| Tishomingo | Sand and gravel. |
| Walthall | Do. |
| Warren | Do. |
| Washington | Do. |
| Wayne | Do. |
| Winston | Clays. |
| Yalobusha | Sand and gravel. |
| Yazoo | Do. |
| Undistributed[2] | Stone (crushed), gem stones. |

[1]No production of nonfuel mineral commodities was reported for counties not listed.
[2]Data not available by county for minerals listed.

**Trends and Developments.**—The unemployment rate, although decreasing, remained in double digits, ending the year at 10.2%. The minerals sector, however, did not participate in the general increase in employment. The construction industry, the main customer for the State's mineral output, declined slightly from its already low level. Mining employment decreased about 10%.

The Tennessee-Tombigbee Waterway handled over 4 million short tons of material in 1987, a 10% increase over that of 1986. Mineral commodities were the major material handled. Crushed stone accounted for the most tonnage, more than 800,000 short tons. Crushed stone was shipped to the coastal region and to storage yards along the waterway.

The Mississippi Department of Economic Development reported 1 new mineral operation and 14 expansions. Total investment was estimated in excess of $50 million. The new operation was a clay company and the expansions included eight clay, three sand and gravel, one mineral fiber, one stone, and one titanium dioxide plant.

Kerr-McGee Chemical Corp., Hamilton, combined a two-phase expansion at its titanium dioxide facility into one phase. The expansion, to be completed by mid-1989, will increase capacity to 106,000 short tons. Estimated cost for the expansion was $45 million. The company's synthetic rutile plant at Mobile, AL, provided feedstock for the Hamilton facility, using ore from Australia. Kerr-McGee also produced electrolytic manganese at Hamilton.

During fiscal year 1987, 215,000 short tons of ilmenite from Australia was imported through the Port of Gulfport, up from 196,000 tons in fiscal year 1986. The ilmenite was destined for the E. I. du Pont de Nemours & Co. Inc. titanium dioxide operation at Pass Christian.

**Legislation and Government Programs.**—The Mississippi Minerals Resources Institute (MRI) investigations dur-

ing the year included testing of clays, basic geologic studies, beneficiation studies, and oil recovery investigations. MRI established an Underwater Minerals and Mining Technology Center that will be moved to Bay St. Louis. The basic charter of the center is to determine location and extent of offshore resources.

## REVIEW BY NONFUEL MINERAL COMMODITIES

### INDUSTRIAL MINERALS

Industrial minerals accounted for all of Mississippi's nonfuel mineral production in 1987. Major commodities produced were cement, clays, sand and gravel, and stone.

**Cement.**—United Cement Co., Artesia, was the only cement producer in the State. Output of portland cement increased to its highest level since 1981; masonry cement output remained low.

Raw materials used in the manufacture of cement included anhydrite, chalk, gypsum, iron ore, limestone, and sand. Raw materials used were mined in the State or adjacent States with the product shipped to markets in the Southeast.

**Clays.**—Mississippi's clay industry consisted of 17 companies operating 23 mines in 11 counties primarily in the northern and northeastern parts of the State. Ball clay, bentonite, common clay, and fuller's earth were produced in the State. Mississippi ranked second nationally in output of bentonite and sixth in fuller's earth. Output of total clays increased over that of 1986, while value nearly doubled.

Common clay was mined at 16 pits primarily in Hinds, Kemper, and Noxubee Counties. Output was 560,000 short tons compared with 617,000 tons in 1986. Major uses were for brick, concrete block, and highway surfacing. Five companies that use common clay expanded facilities during the year: four brick and one ceramic tile plant. Ky-Tenn Clay Co., Panola County, was the only reported producer of ball clay in the State. The clay was used mainly in ceramic applications. Output and value increased 9.4% and 5.8%, respectively. Cyprus Industrial Minerals Co. reportedly mined ball clay intermittently and trucked the clay to Tennessee.

Mississippi's three bentonite producers operated pits in Monroe County. Demand decreased from that of 1986. American Colloid Co., Aberdeen, purchased Culligan USA's desiccant business and will relocate the operations from California to Aberdeen. KaiserTech Ltd. purchased Chevron Corp.'s 50% interest in Harshaw-Filtrol, making Kaiser sole owner of the company. Harshaw's principal operation in Jackson produced calcium bentonite products used in purification and in petrochemical refining. American Colloid and Filtrol announced expansions at their Aberdeen operations.

Production and value of fuller's earth decreased 32% from that of 1986. Three companies mined fuller's earth from open pits in Tippah County to produce various absorbent products. Oil Soak Inc., Noxubee County, started operations in midyear and expansed until yearend. The $2.8 million facility mined a montmorillonite from the Weyerhaeuser Pit to produce various absorbents.

**Sand and Gravel.**—Mississippi produced both construction and industrial sand and gravel in 1987. Total production was estimated to have decreased from that of 1986. Operations in the State were relatively small with no operation producing over 1 million tons in 1987.

*Construction.*—Construction sand and gravel production is surveyed by the U.S. Bureau of Mines for even-numbered years only. This chapter contains estimates for 1985 and 1987 and actual data for 1986. The data for odd-numbered years are based on annual company estimates.

Construction sand and gravel remained the leading commodity in value among the nonfuel minerals produced in Mississippi. Production and value decreased from that of 1986 while unit values increased. The decrease occurred because of reduced construction activities. The State's 10-year road construction program was not expected to have a significant impact on producers until the 1990's.

*Industrial.*—Industrial sand was produced by two companies in Jackson and Tishomingo Counties. Both output and value decreased slightly. Main use was in foundries and as a blasting sand.

**Stone.**—Stone production is surveyed by the U.S. Bureau of Mines for odd-numbered years only. This chapter contains actual

data for 1985 and 1987 and estimates for 1986. Data for even-numbered years are based on annual company estimates.

Crushed stone output remained at about the same level as that of 1986. With the completion of the Tennessee-Tombigbee Waterway, markets were being supplied to some extent by out-of-State producers barging stone down the waterway. The one commercial crushed stone producer faced increased competition for decreasing markets from the out-of-State producers using storage yards along the waterway.

In 1987, seven companies produced limestone or marl at nine quarries in seven counties.

**Table 3.—Mississippi: Crushed stone[1] sold or used by producers in 1987, by use**

(Thousand short tons and thousand dollars)

| Use | Quantity | Value |
|---|---|---|
| Coarse aggregate: Other construction[2] | 614 | 1,968 |
| Agricultural: Agricultural limestone | 124 | 662 |
| Special: Other unspecified[3] | 754 | 6,992 |
| Total | 1,492 | [4]9,621 |

[1]Limestone.
[2]Includes stone used as riprap and jetty stone, concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, screenings (undesignated), graded road base or subbase, and unpaved road surfacing.
[3]Includes production reported without a breakdown by end use and estimates for nonrespondents.
[4]Data do not add to total shown because of independent rounding.

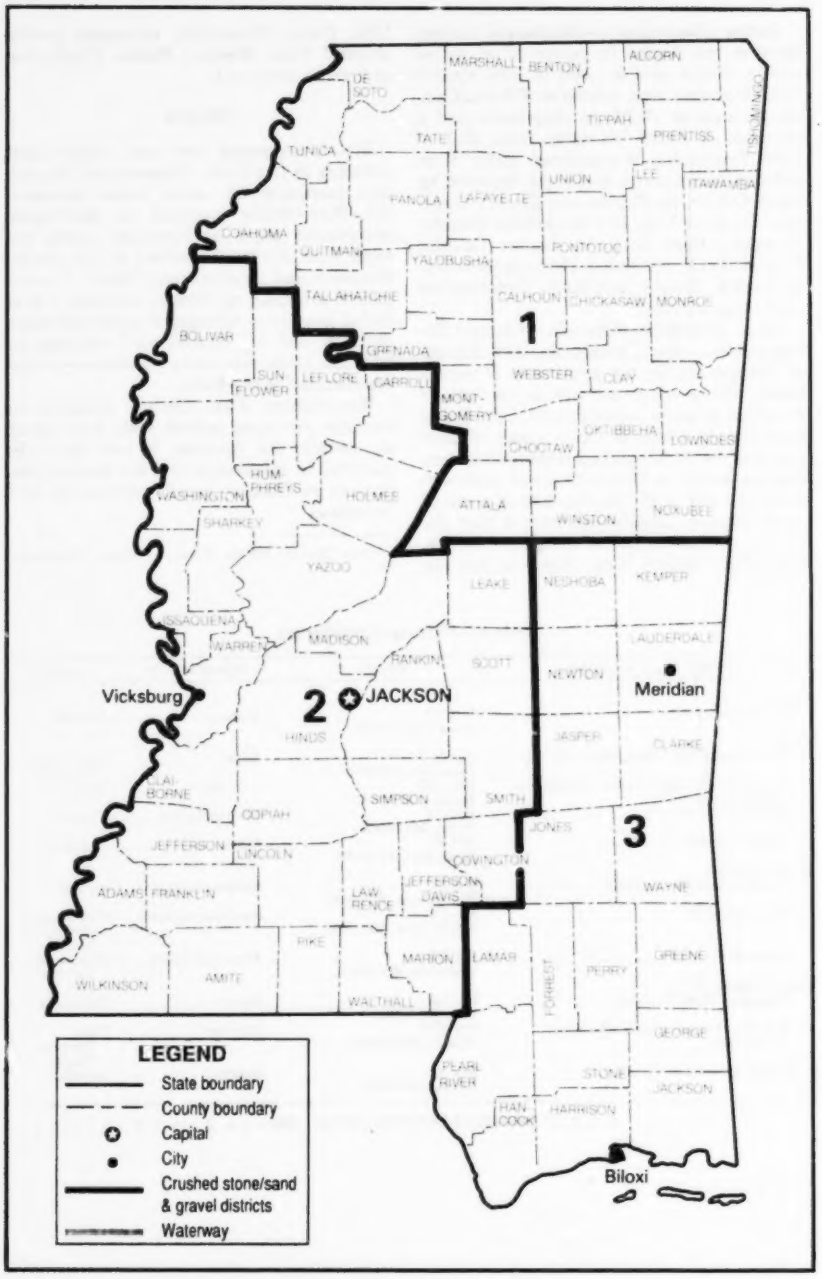


**Figure 1.—Aggregate-producing districts in Mississippi.**

**Sulfur (Recovered).**—Mississippi ranked third in the Nation in output of recovered sulfur. Sulfur sold or used in 1987 totaled 780,000 metric tons, valued at $70.4 million, an increase of 10.3% in shipments and a decrease of 11.2% in value from that of 1986. Production of recovered sulfur from refinery and natural gases was reported by Shell Oil Co. in Clarke and Rankin Counties; Chevron USA Inc. in Jackson County; Amerada Hess Corp. in Lamar County; Pursue Gas Processing & Petrochemical Co. in Rankin County; and Koch Hydrocarbon Co. in Clarke County.

**Other Industrial Minerals.**—Corhart Refractories Co. Inc., Pascagoula, used imported chrome ore for the production of refractories. The primary use was in the form of chromite to make refractory brick for lining metallurgial furances. As a result of poor markets for steelmaking refractories, production ceased in May with plant closure in June. A total of 92 jobs was lost as a result of the closure. Mississippi ranked first nationally in the output of expanded perlite. Manville Products Corp., Natchez, and the USG Corp., Greenville, expanded perlite shipped from Western States. Production and value decreased.

## METALS

Metal processing was not a significant industry in the State. Shipments of ferroalloys increased 5% while value increased 6%. Kerr-McGee operated an electrolytic manganese plant at Hamilton using ore from West Africa. According to Mississippi Research and Development Center, 11 companies produced aluminum castings, 8 produced gray iron castings, 8 produced brass castings, and 6 produced steel castings. In addition, three secondary nonferrous smelters operated in the State.

Birmingham Steel Corp.'s minimill in Jackson produced carbon steel bars using an electric arc furnace. It was the only minimill in Mississippi and the largest supplier of reinforcing bar in Mississippi and Louisiana.

[1]State Mineral Officer, Bureau of Mines, Tuscaloosa, AL.

**Table 4.—Principal producers**

| Commodity and company | Address | Type of activity | County |
|---|---|---|---|
| Cement: | | | |
| United Cement Co | Box 185<br>Artesia, MS 39736 | Plant | Lowndes. |
| Clays: | | | |
| International Minerals & Chemical Corp | Box 346A<br>Aberdeen, MS 39730 | Mine | Monroe and Tippah. |
| Jackson Ready Mix Concrete, a division of Delta Industries Inc. | Box 1292<br>Jackson, MS 39205 | do | Hinds. |
| Oil-Dri Production Co | Box 476<br>Ripley, MS 38663 | Mine and plant | Tippah. |
| Presley Construction Inc | Box 46<br>Shuqualak, MS 39361 | Mines | Noxubee. |
| Sand and gravel: | | | |
| American Sand & Gravel Co | Box 272<br>Hattiesburg, MS 39401 | Stationary plant | Forrest. |
| Blain Gravel Co | Box 278<br>Mount Olive, MS 39119 | Stationary plants | Clay, Copiah, Itawamba, Marion. |
| Hammett Gravel Co | Box 207<br>Lexington, MS 39095 | Mines and plants | Holmes, Marion, Pike. |
| Stone (crushed, 1987): | | | |
| Mississippi Stone Products | Box 338<br>Iuka, MS 38852 | Quarry | Tishomingo. |
| State Department of Agriculture and Commerce. | Box 1609<br>Jackson, MS 39205 | Quarries | Clay, Noxubee, Wayne. |
| United Cement Co | Box 185<br>Artesia, MS 39736 | Quarry | Lowndes. |

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